DOCUMENT RESUME

ED 452 838 IR 020 678

AUTHOR	Porter, Bernajean
TITLE	Measuring Our Progress with Real Tools: Why Does Technology Work in Some Schools and Not in Others?
PUB DATE	2000-09-11
NOTE	10p.; In: The Secretary's Conference on Educational Technology, 2000: Measuring Impacts and Shaping the Future. [Proceedings] (Alexandria, VA, September 11-12, 2000); see IR 020 668.
AVAILABLE FROM	For full text: http://www.ed.gov/Technology/techconf/2000/. For full text: http://www.ed.gov/Technology/techconf/2000/presentations.html.
PUB TYPE	Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Computer Uses in Education; *Educational Change; *Educational Technology; Elementary Secondary Education; Evaluation Methods; *Instructional Effectiveness; Instructional Innovation; Staff Development
IDENTIFIERS	Technology Plans; *Technology Utilization

ABSTRACT

This document is an outline of a presentation on measuring the impact of technology in schools. Highlights include: technology as a system lever; training and conducting audits in over 2,500 schools; Illinois NextSteps--organizing technology for student results; asking big questions of our technology investments; making instructional technology work for all students; stages of staff development; diffusion of innovations; assessing pervasiveness; first order change (focused on technical tasks, getting people to do it, efforts, and broad/generalized learning goals); second order of change (focused on re-culturing, addressing equity/building critical mass, meaningful "worth-the-money" student uses, added-value results, and specific/measurable learning goals); organizing the system for student results--systems thinking; Educational Technology Planners' (ETP's) four CornerStones (i.e., readiness to change, teaching and learning, system capacity, and technology deployment); data collection; leadership measures; catalytic validity; district strategy retreat; technology plan analysis tool; goals in state and district plans; sample goals; ETP's Spectrum of Technology and Learning Uses; mapping learning uses; what ETP is learning, i.e., schools are not presently organized for results; ETP partnership with Phi Delta Kappa; first/second order evaluation; classroom observations; collaborative development; student products helping assess the system's use of technology; student product scoring guides; craftsmanship of tool uses; five uses of the tools; classroom "running records;" and accountability. (MES)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 452 838

Measuring Our Progress With Real Tools: Why Does Technology Work in Some Schools and Not in Others?

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

By: Bernajean Porter

IR020678

BEST COPY AVAILABLE

Measuring Our Progress with Real Tools: Why does technology work in some schools and not in others?

Presentation outline by Bernajean Porter porterbj@edtechplanners.com

Technology as a System Lever

- Technology magnifies and makes visible all that works in a school and all that needs to work better. Porter, 1994

Over the years . . .

- Training and Conducting audits in over 2500 schools
  - Clark County Schools - Las Vegas, NV
  - Denver Public Schools - Colorado
  - DoDDs - Hanau Model Schools - Germany
  - Pinella County Schools - Florida
  - San Luis Obispo County Schools

Scalability: Illinois NextSteps: Organizing Technology for Student Results

- Sponsored by NCRTEC/NCREL with ISBE
- State-wide toolkit for assessing technology's impact
- Six-day Internship Training
- Training 150+ educators to conduct technology and learning audits
- Seven regional states shadowing project

Asking BIG Questions of Our Technology Investments

- What's happening for ALL students?
- What is the "added-value?"
- What's worth the dollars, energy and effort?
- What learning that we value would be impaired or impossible without the technology?

Making IT Happen for ALL Students

- Schools need a force-field analysis of what's working and what needs to work better **in the system** to address the technology issues of scalability, equity and accountability.
- Cannot move past initial 20-30% of the system adopting the innovation **without** the system making a concerted effort to adapt its culture and norms to enable the benefits bringing added-value.

Stages of Staff Development – Guskey, "The Age of Our Accountability" JSD, Fall 1998

- Note: Unless the system makes a concerted effort to address the issues occurring at Stage III, the gains in Stage I and II will dissipate over time.
- Stage I: Attitudes
- Stage II: Knowledge, skills and new attitudes
- Stage III: Organizational support and change
- Stage IV: Use of new knowledge and skills
- Stage V: Student learning outcomes

Diffusion of Innovations - Rogers

- 8% Trailblazers (innovators)
- 17% Pioneers (early adopters)
- 29% Settlers (early leaders)
- 29% Stay-At-Homers (late leaders)
- 17% Saboteurs (naysayers/resisters)

Systems Alert! Assessing Pervasiveness!

- Systems tolerate 25 -30% novelty - then the system tries to kill IT off!
- When the percentages begin to reach at least 50% - You have early signs that the system is beginning to support, adapt and change itself in order to incorporate the benefits of the innovation. Lots of work ahead for collaborative leadership strategizing barriers!
- When the percentages reach 80% or better - you have now established new norms in the organization

First Order Change

- Focused on technical tasks
- Focused on getting people to do IT
- Focused on efforts
- Focused on broad, generalized learning goals

Second Order of Change

- Focused on re-culturing
- Focused on addressing equity / building critical mass
- Focused on meaningful, "worth-the- money" student uses
- Focused on added-value results
- Focused on specific, measurable learning goals

Organizing the System for Student Results
Next Stop: Systems Thinking

- Issues: Scalability, equity, and accountability
- Implementation teams need to be "Cat Herders"
- Organizing for Return On Investment (ROI)
- Preparing for Second Order of Change

ETP's Four CornerStones

Each of the four questions have 6 Indicators. All four areas need equal attention to address technology's issues of scalability, equity and accountability. There are over 75+ templates and tools organized to measure all indicators. Sample reports are organized into four chapters representing each of the four areas. See pdf file ETP's Four Cornerstones.

I. Readiness to Change
II. Teaching and Learning
III. System Capacity
IV. Technology Deployment

Data Collecting is a BIG Job!

- Identifying what you need to know
- Ranking guide for each indicator
  - Qualities / Traits
  - Assessment tools for each indicator
  - Triangulation - three or more data sources to create a "thread of truth" that districts can trust enough to take action on!
- Processes are needed to operationalize the frameworks into doable, usable tasks that provide practical information to school teams

Example: Indicator 2: Leadership measures six traits in order to draw conclusions

- Stewardship
- Collegial strategizing
- Change management
- Support/expectations of staff
- Professional skills/practices
- Urgency

Data in their Face – Going for "Catalytic Validity"

- Educating and mobilizing the system
- The degree to which the research (information) energizes participants toward knowing reality in order to transform it."

Studying Your Own School,
1994 Gary Anderson et al.

District Strategy Retreat – This process is critical to involve groups in owning the problems and the solutions

- Member's Check – provides a quality gate in reviewing the data
- Creating Action Plans from the data reports

Where's the Flashlight?

- Efforts vs Results – Michael Schmoker's book, *Results*
- Equipment efforts vs instructional results
- Automating or re-culturing our schools as we know them today

Tech Plan Analysis Tool – (see pdf file)

- Section 1: Overall Technology Plan
- Section 2: Analysis of Goals of Efforts or Results
- Section 3: Analysis of Successfully Organizing Goals for Student Results

In the Beginning . . .

- Technology plans = purchase orders
- 3-5 years ago "learning" became expected as part of federal / state funding
- Problem --- technology committees worked separately from curriculum groups
- Many groups solved this dilemma with broad "fluff" words to keep from invading teacher / curriculum domains

Glorious Goals Found in State and District Plans – How do you measure these?

- Enriching
- Enhancing
- Supporting standards
- Creating life-long learners
- Raising student achievement
- Integrating – how is it being defined?

Integrating is . . .

- Do something
- Do anything . . .
- Just use it!

Translated as . . .

- Do what you can
- Do what you want

- As long as you use it . . .for something!

Sample Goals – try categorizing these for assessment instruments

- Students will be life-long learners in a technological society.
- Technology will be integrated throughout the curriculum.
- Technology will enrich/enhance student achievement
- Teacher, principals, and students will have opportunities to become comfortable with technology to improve all aspects of learning.

ETP's Spectrum of Technology and Learning Uses

- Literacy Uses – telling technology stories about student learning
- Adapting Uses –telling the same stories about student learning with new tools
- Transforming Uses –telling new stories NOT possible or probable without the technology

Mapping Learning Uses

Item analysis of staff development workshop titles, teacher lesson plans, interviews and technology plans into the three categories of technology and learning uses. Generally what is being taught to the teachers is what is actually being implemented in the classrooms. Are you teaching what you want to happen in the classrooms for students?

The question is not what category you are supporting with technology uses – the real question is are you getting what you want? Is what you are getting worth the money and effort?

What ETP is Learning. . . Schools are NOT Presently Organized for Results

- Scoring "Accountability Readiness" – see www.edtechplanners.com for on-line scoring of essential elements needed to organize for accountability.
- What we have found in hundreds of schools conducting audits:
  - Schools are not presently organized for student results
  - Critical mass of systems are in first order of change
  - Technology use is optional NOT essential
  - Goals are focused on "efforts" rather than student RESULTS or benefits
  - Goals/indicators are NOT presently measurable
  - Baseline data for student results has NOT BEEN collected to chart progress
  - Data collection is mostly about technical availability and use
  - Learning evidence is presently more anecdotal than empirical
  - Funds ARE NOT allocated for data-based decisions / evaluation

ETP has recently partnered with Phi Delta Kappa to train educators through six-day internships to acquire the skills and tools to assess and evaluation their technology's impact. (See www.pdkintl.org for details.)

Skills do NOT Equal Practices

Surveys alone cannot reveal what is really happening for students. Surveys are one-dimensional reportings. Sometimes they tend to represent "collective delusions" of what is happening. Need external evaluators to conduct observations, interviews, and focus groups in connection with surveys to determine what's working and what needs to work better with actual practices.

First/Second Order Evaluation

- First Order -- Efforts
  - Measuring the doing
  - What happened for adults and equipment?
  - What was completed/accomplished?
- Second Order -- Results
  - Measuring the growth of benefits / changes
  - What happened for students?
  - What is the "added-value" NOT possible before the investment of dollars and the implementation work?

How Does IT Really for Students?

Classroom Observations: "Knowing the Culture Context"

Walk-through Observations in Buildings – Help assess the following indicators:

- Ubiquitous Access
- Equitable Learning
- Tool Capacity
- Connectivity

- Pedagogical Readiness
- Instructional Practices
- Student Work

Interviews: The Real Story
- Leaders
- Teachers
- Parents
- Community
- Students

NEW! **Evaluating Student Products**

NCRTEC/NCREL in partnership w/ Education Tech Planners
- How about using student products to deepen the evaluation of the impact of technology on student learning?
- 70+ Comprehensive Assessment Tools
  - To determine the quality of content/craftsmanship of student work
  - To conduct a meta-analysis of the system use of technology

Collaborative Development
- Sponsored a national think-tank team
  - Annette Lamb — Kristin Ciesemier
  - Lisa Holms — Marilyn Jerde
  - Anita Dosaj — Bruce McKay
  - Bernajean Porter — Ian Jukes
- Critical friends
  - Karen Bunting — Carolyn McCullen
  - Lynell Burmark — Helen Hoffman
  - Jim Sydow — Pete Denzin
  - Tom Valentin

Student Products Help Assess the System's Use of Technology (see pdf file SystemAssess/Student Products)

- What are the expectations and results of student computer-based products?
- Nine indicators score the system:
  - Standards-based Learning
  - Curriculum Linking
  - Cognitive Tasks
  - Assessment Practices
  - Content Achievement
  - Craftsmanship of Communication
  - Authentic Tasks
  - Instructional Uses / Practices
  - Added-value

Eight Trait Student Product Scoring Guides (see pdf file "Overview of Scoring Guides" and "Sample Scoring Guide")

- Part I: Content Communication
  - Preparation of Tasks
  - Content Knowledge
  - Format/Organization

Craftsmanship of Tool Use

- Part II: Pathways of Communication
  - Text Communication
  - Image Communication
  - Voice / Sound Communication
  - Design of Communication
  - Interactivity of Communication

Five Uses of the Tools

- 1. External evaluators *
- 2. Internal evaluators *
- 3. Staff training *
- 4. Peer collaborative scoring *
- 5. Individual scoring
- ***Collaborative assessment used in 1-4 Uses**

Classroom "Running Records"

- Using Student Product Evaluation Tools for
  - Continuous assessment of student work
  - Capacity to assess progress over time

Grappling with Accountability: Resource Tools for Organizing and Assessing Technology for Student Results by Bernajean Porter

- Field-tested 8 years
- Do-it-yourself guide
- ETP's Four CornerStones Framework plus
- 80+ digital tools / templates / sample reports
- Processes for data collection, project management, as well as for energizing and mobilizing the system to take action

Ready or NOT!

Herding those "CATS"

- It's not going to be enough to know how to do IT . . .
- we are going to have to be able to do IT even when we don't know how!

For More Information:

- **www.edtechplanners.com -- To download conference handouts, use all caps and the following key words – User ID = DOE Password = KIDS**

- **www.pdkintl.org – To request more information on workshops, on-line survey services, and comprehensive technology audits.**